stricture—a precaution which had been long ago recommended with a view of avoiding the accident in question.—*Monthly Journal of Medical Science*, March, 1854.

45. *Amputation at the Shoulder Joint.*—Mr. Alexander Ure read a paper on this subject before the Harveian Society, March 16, 1854. He observed that amputation at the shoulder-joint may be performed in a variety of ways. M. Lisfranc, in his work on Surgery, had described no less than thirty-two different modes of doing the operation. Those chiefly resorted to at the present day were either the flap operation, or what is termed the oval method. Where the patient was of a spare make, and the shoulder of moderate dimensions, the oval method answered well; where, on the other hand, the shoulder was large and brawny, the flap operation was more eligible. He remarked, that where the soft parts were extensively torn and bruised, or the shoulder was misshapen by disease, no specific could apply, and the surgeon must be guided by existing circumstances. The author, after pointing out the anatomical relations of the part, detailed the successive stages of each operation. In reference to the formation of the flap, he stated that if the arm be brought into a horizontal position, the deltoid muscle can be fully grasped by the hand of the surgeon, and lifted up in a relaxed condition, so as to permit of the knife being thrust between the muscle and the capsule of the joint. He inculcated the importance of leaving the division of the axillary vessels to the last stroke of the knife, and said the flow of blood might be completely controlled by simply directing an assistant to place his two thumbs on the bleeding face of the stump, while with the fingers of each hand he laid hold of the integuments. If the compression were skilfully made, one hand would usually suffice. He deprecated every method of amputating in this situation, which necessitated mediate ligation. The author related the particulars of a case in which he had recourse to the oval operation. The patient was fifty-five years of age, of rather short stature and spare make; his calling that of a cow-keeper. He was brought into St. Mary's Hospital on September 16, 1853, having shortly before been knocked down by a heavy-laden wagon, the wheel of which crushed his left arm, producing a compound comminuted fracture of the humerus just above its upper third. The adjunct soft parts were severely bruised and lacerated; the deltoid muscle was partially detached and retracted towards the acromion process of the scapula; there was a penetrating wound through the integuments at the site of the fracture by which a probe could be passed nearly up to the neck of the bone; the limb below the seat of injury was quite cold; no pulse could be felt at the wrist. When seen by the author about an hour after admission, the patient was in rather a prostrate condition; the countenance anxious; the pulse in the sound arm feeble, tremulous, 108 in the minute: the tongue dry, and its surface yellowish-brown. After consultation with two of his colleagues, the author proceeded at once to remove the arm at the shoulder-joint, the patient having been previously rendered insensible by chloroform. A vertical incision was made through the skin and subjacent tissues down to the bone, commencing at the acromion, and terminating at a point corresponding to the fold of the armpit. This was continued by a semicircular sweep through the integument of the back of the arm, and brought round so as to join the extremity of the former cut. The fleshy structures towards the acromial side were then carefully dissected, and after cutting across the tendons, and laying open the capsule of the joint, the head of the bone was dislocated. The edge of the knife was now directed so as to cut its way out, downwards, behind the bone, precaution being had to avoid the artery, which at this stage was firmly held and compressed by Mr. James Lane. Four vessels were immediately secured in the ordinary way. As a quantity of blood continued to well from the axillary vein, it was likewise tied. A portion of the bruised flesh having been removed, the edges of the wound were brought together, and retained in apposition by means of sutures, and a pledget of wet lint applied. During the operation the subclavian artery was most efficiently compressed upon the first rib over the clavicle by Mr. Lane; hence the amount of blood lost did not exceed two ounces, and that chiefly venous. In reference to ligation of the vein, the

author observed that it not only served to arrest the bleeding, but also to obviate the risk of jeopardy from the ingress of air into a gaping orifice in close proximity to the heart. A wound of the axillary vein had already proved fatal from this circumstance. Roux thus lost a patient while amputating at the shoulder-joint. There was an anatomical reason why such an accident was prone to occur. The axillary vein below the clavicle was so intimately connected with the coraco-brachial fascia, and the perichondrium of the cartilage of the first rib, that when incised or cut across it was unable to collapse, and thus offered every facility for the inlet of air. On examining the amputated limb, it was ascertained that the bone was broken right across a little below the neck, and again two inches lower down, the intermediate portion being shivered lengthwise into four irregular fragments. These sharp pieces were deeply buried in the adjunct flesh, which was in a mushy condition both above and below. The sheath of the brachial vessels was gorged with blood for several inches in length. The artery was apparently entire. The patient, after he was placed in bed, was directed to have a dose of laudanum, and every third hour half an ounce of brandy. The patient made a good recovery, and was removed on the 16th December to the convalescent institution at Carshalton; from thence he was discharged quite well in less than a month. In some remarks upon the case, the author alluded to the dangers attendant upon the attempt to save a limb in such a state from the consequent exhausting processes of sloughing and suppuration, or from the supervention of tetanus. He also made some remarks on the importance of the after treatment, chiefly with refereuce to the position of the patient.—*Lancet*, April 1, 1854.

46. *Amputation at the Knee-joint.*—By H. G. Potter, Esq., Surgeon to the Newcastle Infirmary.—Harriet S——, aged forty, was admitted into Newcastle-upon-Tyne Infirmary on the 8th of December, 1853. She states that about twenty years ago she knelt upon a small stone, which gave her great pain in the knee. From that time until about six months ago she had severe pain, at intervals, in the joint, but was not laid up. During the last six months she has been confined to bed, and though everything seems to have been tried which was likely to do good, the disease increased, and the leg became more and more flexed until, as at present, it has reached the utmost degree possible. Any attempt at extension gives intense pain; some tortuous sinuses run down to the bone; and there is every symptom present which indicates ulceration of the cartilages. She is very thin and hectic, and is extremely anxious to have the limb removed.

Operation. Dec. 13.—An incision commencing a little above the middle of the external condyle was continued across the knee, round the upper half of the patella, to the middle of the inner condyle, and ended a little above it. This incision separated the patella from its superior attachments, and opened the joint. The ligaments were next divided, and the saw introduced behind the condyles, which were with the greatest facility sawn through. I used the saw I described in The Lancet of 1845, vol. ii. p. 546, and which will be found to be of great use in such operations. The knife was now placed behind the joint, and a full-sized flap formed from the back of the leg. No difficulty was met with in any part of the operation, and the flaps came nicely together, in which position they were retained by sutures and plaster. Chloroform was successfully administered by Mr. Gibb, our talented house-surgeon.

On examining the joint after removal, the cartilages were found to be ulcerated, and the synovial membrane pulpy.

Dec. 14.—There is a remarkable change in the countenance this morning. From the time she entered the hospital, until to-day, she has had a very haggard look; now, however, the countenance has assumed a placidity which contrasts very favourably with its previous disturbed appearance. The pulse is quiet and regular, and she rested well during the night.

From this time the case went on well, the flaps united by the first intention, the patient acquired strength and flesh, and was discharged cured on the 17th of March, 1854.

Should I again perform this operation, I would remove the diseased synovial